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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/699,100	10/30/2003	Hilal Ezzeddine	2269-5-3	2659

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EXAMINER

NGUYEN, TUYEN T

ART UNIT PAPER NUMBER

2832

DATE MAILED: 04/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/699,100

Applicant(s)

EZZEDDINE, HILAL

Examiner

TUYEN T. NGUYEN

Art Unit

2832

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) 13-23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Drawings*

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, *the two conductive/metallization layers separated by a dielectric, the capacitor is located in the center of the spirals of the first sections* must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-6 and 9-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, applicant should clarify what is *the desired central frequency* of the transformer. Applicant should clarify what is “a central frequency of a bandwidth”.

Regarding claim 4, applicant should clarify the structure/arrangement of “the capacitor is located in the center of the spirals of the first sections.” From the figure [figure 5], the capacitor is located on one side thereof.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 6-10, as best understood in view of the rejections under 35 USC 112 second paragraph, are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art of figure 2 [AAPA] in view of Ross [US 3,836,852].

AAPA discloses a transformer comprising:

- a common mode winding structure including first and second coils [5, 6]; and
- a differential mode winding structure including first and second coils [7, 8] electrically coupled with the common mode winding structure.

wherein the coils having the same length of  $\lambda/4$ .

AAPA discloses the instant claimed invention except for a capacitor connected to the common mode winding structure.

Ross discloses a transformer [figure 15] comprising:

- a common mode winding structure including first and second coils [149, 151];
- a different mode winding structure including at least one coil [147]; and
- at least one capacitor [153] connected in series with the common mode winding structure.

It would have been obvious to one having ordinary skilled in the art at the time the invention was made to include a capacitor in series with the common mode winding structure of AAPA, as suggested by Ross, for the purpose of enhancing the operating frequency of the transformer.

Regarding claims 6 and 9-10, the specific frequency of the transformer would have been an obvious design consideration based on the intended application/environment use.

Claims 3-5 and 11-12, as best understood in view of the rejections under 35 USC 112 second paragraph, are rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA in view of Ross as applied to claims 1 and 7 above, and further in view of Waffenschmidt [US 6,529,363 B2].

AAPA in view of Ross discloses the instant claimed invention except for the specific multi-layered structure of coil assembly.

Waffenschmidt discloses a multi-layered transformer comprising at least one coil formed of a plurality of conductive layers [1, 2, 3, 4, 5, 6] with insulating layer [8] disposed between the conductive layers and a capacitor [9] coupled to the at least one coil.

It would have been obvious to one having ordinary skilled in the art at the time the invention was made to use the multi-layered design of Waffenschmidt in AAPA, as modified, for the purpose of reducing size.

### ***Response to Arguments***

Applicant's arguments filed 1/23/2006 have been fully considered but they are not persuasive.

Applicant argues that Ross does not disclose a mode-switching transformer having a common mode and differential mode winding structure or a capacitor to lower the central frequency of the transformer.

The examiner disagrees. AAPA discloses a mode-switching transformer comprising a first line in common mode and a second line in differential mode. Ross discloses a transformer comprising two winding structure and a capacitor connected in series with one of the two winding structure. To use the capacitor connected in series of the winding design of Ross in AAPA's mode switching transformer by including a capacitor connected in series of the common mode would result in *lowering a central frequency of a bandwidth of a transformer*.

Applicant presents no argument for claims 3-12. Examiner assumed the prior art of record discloses the claimed invention of claims 3-12.

### ***Allowable Subject Matter***

Claim 2 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

*Conclusion*

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TUYEN T. NGUYEN whose telephone number is 571-272-1996. The examiner can normally be reached on M-F 8:30-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, ELVIN ENAD can be reached on 571-272-1990. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TTN

*TTN*

*Tracy Nguyen*